

# hard core computing

YOU ARE NOW ENTERING INTO  
THE FORBIDDEN WORLDS OF APPLE COMPUTING

**WARNING:**

Many software vendors, computer magazines, and  
even computer stores do NOT want you to read  
the material within these pages.

THEY DO NOT WANT YOU TO LEARN  
HOW TO DO AND UNDO COPY-PROTECTION.

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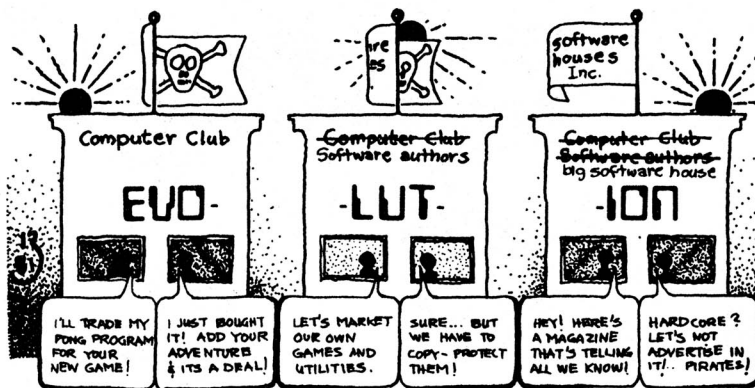
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# FOR USERS, BY USERS

HARDCORE . . .

A magazine dedicated to the Apple-users.

There's HARD CORE: a firm, unyielding, unchanging, stubborn central part of an object, like the hard core of a petrified apple.

And there's HARD-CORE: absolute, unqualified, true, total . . . such as hard-core rebels, or hard-core idealists, (and, yes, hard-core pornography . . .).

But there is only one HARDCORE and that is: HARDCORE COMPUTING. And it means whatever you want it to mean.

When I acquired my Apple II+, I examined the spectrum of computer magazines that contained information for Apple-users. The list was large, yet none truly met my needs. I was after a magazine that had useful information for a true Apple-user (someone who wanted to get into the "core" of the Apple and all its peripherals). Most seemed to be peddling software, and doing it very uncritically.

Then I became aware of a raging, silent battle between Apple-users and the magazines. The users were accusing the magazines of censorship, of hypocritically announcing their objective to be a magazine for Apple-users while encouraging the suppression of information (in this case, advertising info about a program that would permit the user to make legal backups of protected disks). The magazines, on the other hand, were obliquely accusing the Apple-users of being pirates and thieves. It was then I realized that most of the magazines had to take a stance against consumer "piracy" because those magazines were actually software houses themselves or they were financially dependent on other software houses. It would be suicide for them to stand up for the Apple-users.

This problem became more apparent when "Locksmith", a bit-copier that would make duplicates of many copy-protected diskettes, was censored (the magazines refused to publish the ad, thereby denying their readers the knowledge of the existence of such information).

That was censorship! And the battle was on. They knew that every serious Apple-user had both a need and a right to make back-up copies of protected disks.

Any magazine that took a stance against the Apple-users could not be a magazine for me, no matter how large or profitable it was (for now I knew how they came to be so profitable: at the expense of their readership).

Because there was no magazine out there for me, I decided to fill that void myself . . . and I have run into nothing but problems since then.

Our hope is that there may be many who are tired of being kept ignorant by the other magazines and told that it is for their own good. I hope that there is a HARD CORE of computerists who dislike being manipulated by the software industry, a HARD-CORE group who deplore censorship as practiced by other magazines, and a host of Apple-owners who feel that there is a need for a Apple-computer FREE-PRESS magazine like HARDCORE COMPUTING.

We, at HARDCORE COMPUTING, have been the focus of much anger from software vendors. Just as the power of the software industry has pressured the other computer magazines, we expect that same power to descend upon us.

You see . . . magazines are handsomely supported by advertising revenue. In this respect we expect to encounter some difficulty, to say the least. We will probably be supported mostly by subscription.

Chuck R. Haight,  
Publisher

# How to COPY THE UNCOPYABLES

Always back up your software library.

That should be the first rule of any wise computerist.

When you acquire the original of any program, you should copy it and use the copies instead of the original. Put the original in a container that can protect it from destruction. And if it is particularly valuable, you should even store some of the copies in various places of safety. Similarly, copy the documentation, making a working copy to use while storing the original on the shelf someplace safe.

All your software should be copied because, even if it isn't particularly valuable, it is probably very costly to replace (since software prices are still so high).

EVEN THE COPY-PROTECTED PROGRAMS

But, (you complain bitterly) how can you make back-up copies of the non-standard format (copy-protected) disks? Easy... and that's what this column is all about: how to copy the uncopyables!

While the editorial battle rages in some of the other computer magazines that are taking a rigid stance against people who back up their copy-protected software, we have already chosen the opposite road.

We support the consumer, the user.

And while the road that the other mags are following has already led to secrecy, suppressed information and censorship; our road leads to the open exchange of knowledge that permits valid free choice.

While other editors practice a form of censorship for the "good" of their readers (who, they feel, yield too easily to the temptation to trade copies), we at **HARDCORE COMPUTING** proclaim that it is our duty to fight this plague of suppression and secrecy being spread by the software marketers and the magazines they advertise in.

And while their editors and publishers are deciding just how to keep their readers in the dark, we are trying to remove that growing shroud of ignorance.

We feel that computers, by their ability to handle modifiable algorithms, will bring about greater independence and individuality. The use of computers in industrial production can turn a redundant assembly line into creative customizing assemblers... each product being different and fitting to the needs and wants of its purchaser.

BUT... when pre-packaged programs come in a form that permits their functioning but not their examination and modification then those programs are no longer oriented toward independence and individuality. They are annoying anachronisms from the days of the old-fashioned assembly lines and worse... for the copy protection prevents their being customized.

That is, however, a solvable annoyance. If you desire to alter your programs to make them fit your needs and desires... then this column is for you.

CUSTOMIZE YOUR PROGRAMS

We show you how to "unlock" a program, place it on normal D.O.S. so you can list it, fix or alter it to your heart's content. Or you can easily make as many back-up copies as you want.

In this issue we show you several ways that do

## TEN -copy-protection- COMMANDMENTS

Thou Shalt:

1. NOT EXPECT CUSTOMIZABLE PROGRAMS for that means that thou shalt write your own.
2. NOT RETURN PROGRAMS IF NOT SATISFIED with product for thou may have made a copy of it.
3. NOT JOIN ANY COMPUTER CLUB not controlled by a software house or you shall burn in Micro-hell.
4. NOT MAKE BACK-UPS of copy-protected programs for then thou shalt be a vile and wicked sinner.
5. NOT ALTER PROGRAMS to fit thy needs for to do so thou must break this holy lock and that is a sin most evil.
6. NOT LEND PROGRAMS TO OTHERS for all others are Pirates.
7. NOT TAMPER WITH THIS HOLY LOCK or the program will destroy itself.
8. NOT COMPLAIN ABOUT THE LACK OF WARRANTIES, guarantees, or other promises given by other industries.
9. NOT EXPECT LOW-COST UPDATES and corrections for you are our sheep and we are fleecing you.
10. NOT BUY, READ, OR TALK TO ANYONE ABOUT HARDCORE COMPUTING.

by the editor...

**ESQUIRE, Jan. 1982**  
"Secrets of the Software Pirates" by Lee Gomes  
... Software houses saw Locksmith as the start of an open season on their products. They expressed their displeasure to the owners of the computer magazines, most of whom obliged by refusing to run Albert's ads. When some Apple enthusiasts in Washington State heard about the boycott, they concluded it was nothing but censorship and another example of the magazines' ignoring the average Apple user

to placate their advertisers. So they started their own publication, **HARDCORE COMPUTING**, which with its first issue came to play the role of iconic underground magazine battling the industry's stodgy straight press."

**TIME, Feb. 8, 1982**  
"Roaming Hi-Tech Pirates"  
... **HARDCORE COMPUTING**, a small magazine in Tacoma, Wash., warns pirates about the latest technology that companies are using against them."

## CENSORSHIP: from prediction to practice...

I do not condone commercial piracy. However, I do believe that users have a right to make backups and even alterations in any program that they obtain. **HARDCORE** will supply that information for the users.

Many (most?) software houses want to maintain their inflated prices, so they will not be too happy with our editorial viewpoints or our stance on information exchange. Many want and need a consumership ignorant in certain aspects of their computer's uses: such as making back-up copies.

**THESE SOFTWARE COMPANIES WILL BOYCOTT HARDCORE COMPUTING.**

And because a magazine's survival depends upon advertising revenue, they hope that by doing so they will put us out of business thereby censoring that information.

The other computer magazines do not want to be boycotted by their advertisers so that they will continue their policy of censorship until stopped by a court decision. And, of course, some of these magazines are "fronts" for a software house, a sort of catalog disguised as a magazine.

**THESE TYPES OF MAGAZINES WILL PROBABLY REFUSE TO PUBLISH OUR ADS.**

Because exposure and circulation are necessary to keep a magazine alive, perhaps they hope that this will put us out of business. In this way, they will have extended their own powers of censorship over another information outlet.

If the Apple-users do not learn of the existence of our user-oriented magazine, such a ploy will have succeeded.

In order to protect their software sales from what they perceive as a threat, **SOME COMPUTER STORES WILL NOT CARRY HARDCORE COMPUTING ON THEIR MAGAZINE RACKS.**

And if you belong to a computer club that is actually just a "front" for a computer store or a software house, then, just maybe, **YOUR CLUB WILL NOT LET YOU LEARN OF THE EXISTENCE OF HARDCORE COMPUTING.** You will be just one of many people who comprise a captive consumership or even an unknowing software source for a true commercial "pirate" software house (one that "steals" member-donated programs and subroutines and markets them under a different company name).

We sent flyers to a great many Apple-users groups. If you haven't heard about us from your club officers, then you have valid grounds for suspicion. Ask them about **HARDCORE COMPUTING.**

Isn't it time you found out if the club you support is really an Apple-users club?

And, above all, let other members learn of **HARDCORE**'s objectives and motives. After all, **HARDCORE** is user-supported, not ad-supported.

(.....ed.)

## Creative Computing Censors Hardcore Advertisement

Creative Computing is still censoring ads and suppressing information about copy protection. It has just refused to publish the **HARDCORE** advertisement shown on this page.

What did the editors of CC find unprintable in our ad?

"Only two lines," explained their Advertising Manager, Jerry Thompson. "They are: 'back up any diskette', and 'do E undo copy-protection'."

Jerry said that either we agree to let them remove those lines or they would refuse to run the ad. Well, we stood by our editorial policy of fighting censorship and they stood by their policy of information suppression. So you won't see this ad in CC.

One of their editors, George Blank, defended CC's policy by offering the lame comparison to Reader's Digest's policy against running liquor ads. He added that at least CC will run ads for competitors.

**Big Deal!** All of them share CC's censorship policy. All of them... except **HARDCORE COMPUTING**. And they will not run our ads.

George's final defense was that CC had a readership of well over 100,000... so obviously they must be doing things right. What can I say to that?

And when I mentioned that the readers have had no alternative, he answered promptly, "Yes, they do!" (meaning his competitors). I retorted that they practice the same form of censorship.

"That might mean that we're right and you're wrong," he concluded.

# 2-Column Split-Screen MENU Hello

## Lets You RUN, BRUN and EXEC by Pressing Just One Key

Here is a program that uses split-screen formatting to show 40 file entries at one time.

If there are more than 40 file names on the disk then the program will automatically page, displaying 40 file names on each page.

The files may be selected by number.

If you don't find the program you want, slip in a new disk and press return, it takes care of itself.

This program may be moved to any DOS 3.3 disk and used as the "HELLO" program.

In order to use the program, you will need an Apple II or Apple II+ with 48K and Applesoft in ROM. The program will only run under 16 sector DOS 3.3.

```
100 TEXT : HOME : GOTO 430
110 FOR X = 1 TO 40: PRINT "=";:
NEXT : RETURN
120 PRINT X;: HTAB 5: PRINT MID$
(NAS(X),8,30): RETURN
130 PRINT "X" ";: HTAB 6: PRINT
MID$(NAS(X),8,15): RETURN
140 VTAB 1: GOSUB 110: VTAB 22:
GOSUB 110: POKE 34,1: VTAB 2:
RETURN
150 POKE 33,21: POKE 32,19: VTAB 1:
HTAB 1: PRINT : RETURN
160 POKE 33,40: POKE 32,0: VTAB 23:
HTAB 1: PRINT : RETURN
170 GOSUB 160: VTAB 23: PRINT "IS
YOUR PROGRAM LISTED HERE? Y/";:
INVERSE : PRINT "N";: NORMAL :
PRINT " ";: GET A$: PRINT
180 IF A$ = "Y" THEN MAX = N - 1: N =
105: POP : GOTO 310
190 VTAB 23: CALL - 958: POKE 34,1:
POKE 35,21: HOME : POKE 35,24:
RETURN
200 GOSUB 140: X = 0
210 FOR N = 1 TO 105
220 IF LEFT$(NAS(N),2) = " " THEN
MAX = N - 1: N = 105: GOTO 310
230 X = X + 1: IF X < 21 THEN GOSUB
120: GOTO 310
240 IF X = 21 OR X = 61 OR X = 101
THEN GOSUB 150
250 IF X < 41 THEN GOSUB 130: GOTO
310
260 IF X = 41 OR X = 81 THEN GOSUB
170
270 IF X < 61 THEN GOSUB 120: GOTO
310
280 IF X < 81 THEN GOSUB 130: GOTO
310
290 IF X < 101 THEN GOSUB 120: GOTO
310
300 GOSUB 130
310 NEXT
```

```
320 GOSUB 160: POKE 34,22
330 VTAB 23: CALL - 958
340 INPUT
"SELECT A FILE BY NUMBER -->";A$:
:A = VAL (A$): IF A > MAX THEN
330
350 IF A = 0 THEN RUN
360 T$ = MID$(NAME$(A),2,1):B$ =
MID$(NAME$(A),8,30)
370 IF T$ = "B" THEN A$ = "BRUN "
380 IF T$ = "T" THEN A$ = "EXEC "
390 IF T$ = "I" OR T$ = "A" THEN A$
= "RUN "
400 VTAB 23: PRINT A$:B$
410 VTAB 23: PRINT D$:A$:B$
420 END
430 DIM NAME$(105)
440 FOR X = 1 TO 38: B$ = B$ + " ":
NEXT
450 FOR X = 105 TO 1 STEP -
1: NAME$(X) = B$: NEXT
460 NAME$(0) = LEFT$(B$,19)
```

```
470 D$ = CHR$(4)
480 VTAB 12: HTAB 12: PRINT
"READING CATALOG ": VTAB 12:
HTAB 29
490 FOR X = 768 TO 815: READ N: POKE
X,N: NEXT
500 DATA 169,34,141,83,170,169,3,141
,84,170,169,47,141,85,170,169,3,
141,86,170,160,8,177,107,141,37,
3,200,177,107,141,38,3,96,41,127
,141,255,255,238,37,3,208,3,238,
38,3,96
510 ONERR GOTO 530
520 CALL 768: PRINT D$: "CATALOG"
530 POKE 216,0: PRINT D$: "PR#0":
PRINT D$: "IN#0": PRINT
540 IF LEFT$(NAS(0),1) = " " THEN
VTAB 12: CALL - 868: PRINT "!!!
ERROR - UNABLE TO READ DIRECTORY
!!!": END
550 HOME : GOTO 200
```

## USE BOTH SIDES OF YOUR DISKS?

### Both Sides of the Debate ...

With the DISK II drive, you have the ability to use both sides of your "single sided" diskettes. That means that you'll have double the storage capacity, and all you need to accomplish this feat is a standard hole punch (preferably a hand held implement), and something (a pencil?) to mark the diskette surface...But should you?

This special DIGEST examines this topic in three parts:

1. Flip your Floppy, the basic "how to" of flipping...digested from: "Flipping Your Disk" by M.G. Sies, which appeared in the March '81 issue of COMPUTE!, page 71.
2. Don't Flip It, a warning of the risks involved in flipping...digested from: "2 sided disks" by D. Buchler of Mini'Apples from material supplied by Dysan Corp., in the Spring, 1981, p. 27.
3. A view of Disk Prep and Disk Scanner, two programs that will let you use the reverse sides even if there are bad sectors...

### PART 1 FLIP YOUR FLOPPY

The only thing that prevents you from using both sides of your single-sided diskettes is that it is effective "write-protected." In other words, there is no notch for the write-enable switch to slip into...so you can't write on that side unless you 1. disable that switch or, 2. make a notch on the other side. For those who already know about this simple operation, please go on to part 2 or 3.

Take two floppies and flip one over so that they are facing each other. Mark where and how far in the original notches are and then use the hole punch to cut the second notch. Be sure that you neither cut too deeply that you actually cut into the inner diskette, nor too shallowly that the switch cannot slip through.

(...the switch is triangular and pushes up through the gap. A round hole may have to be deeper in order to let this object pass...ed.)

Now all you have to do is INITIALize it normally. If you get an I/O ERROR, then you are ready for part 3. But read part 2 first.

### PART 2 DON'T FLIP IT!

Some makers of minifloppies and diskette drives do not recommend that you use both sides of your diskettes if you have a one-head drive because:

1. When the drive head is applied to one side, a felt loading pad is pressed against the other side. That pad will accumulate oxide particles that may scour the reverse side. When flipped, the contaminated pad may then scour the prime side as well. This may lead to premature loss of data and the accumulation of read errors that may go unnoticed or be intermittent...making your drive unreliable.

2. The direction of rotation is reversed when the diskette is flipped and this may dislodge oxide particles that have accumulated on the liner material. The results would be similar to risk No. 1.

Neither problem occurs on a two-head drive because 1. the pressure pad is replaced by another write head, and 2. the direction of rotation does not change.



# otherwords

## on bit-copy programs

"The presence of a number of commercially available bit copy programs will probably stimulate many software companies to review their service policies. Those reviews should produce constructive new policies which improve pricing and availability of replacement packages. That will be a positive step.

"The presence of commercially available bit copy programs can make it easier for software pirates to make unauthorized copies of commercial software for broad distribution. That is potentially a negative result.

"But the Bit Copier itself, is not logically or legally responsible for either. It is simply a program — one which can be used badly, or well.

"The simple fact is, Bit Copy programs are now here."

Mike Harvey, Publisher/editor, NIBBLE, volume 2, #2.. editorial, page 3.

"Several other magazines in the industry have recently been running advertisements for a program that copies (duplicates) protected software for a particular machine. One of the magazines (Micro) checked with us to see our feelings on such advertising. We indicated that we wouldn't run such ads, given that the software in question could be used to produce copies of "protected" and proprietary software. We understand that Micro has since decided to do the same.

"We applaud this move toward protecting the rights of the software industry, and encourage additional comment."

Robert Lock, Publisher/editor, COMPUTE!, editorial, volume 3, #3, page 4, 9.

"MICRO is unconditionally opposed to the illegal copying of software listings, cassettes, diskettes or any other protected material. I am embarrassed that the need has arisen to make what should be an obvious statement of policy. Due to the publication of an advertisement in our January and February issues, a number of advertisers and readers have expressed concern that MICRO appeared to be supporting the illegal copying of protected disks. In retrospect, I believe that I made a mistake in allowing the ad to run..."

"The advertisement referred to above was for a program that would copy "protected" diskettes."

"The staff of MICRO will now review every ad and, where there are problems, take appropriate steps."

Robert M. Tripp, Publisher/editor, MICRO, editorial, #34, March 1981, page 5.

# DISKLOCK

## How To Copy-protect Your Disks

There are thousands of ways to make a disk uncopyable. Every programmer has a favorite method. Mine is to change the address or data marks. These are the bytes that tell the Disk Operating System (DOS) where it is and what it's reading.

The address mark consists of a start flag, volume-track-sector-checksum information and an end flag.

The data mark consists of a start flag, one page of data and an end flag.

Changing the address or data marks is simple. Residing within the DOS is the RWTS (Read or Write a Track and Sector). When you initialize a disk, DOS calls the RWTS which writes the address and data marks for each track and sector. If you change the address or data mark in the RWTS core then any disk you initialize from this core will have the changed address and data marks and be uncopyable (at least by normal methods).

The locations for 3.3 DOS are 47413 and 47262. These are only two of a number of locations. A more complete explanation will be in your first UPDATE. (ONLY SUBSCRIBERS RECEIVE UPDATES -ED)

The locations for 3.2 DOS are 47446 and 47326. The normal value at these addresses is 222. When you change this byte, be sure to change both locations to the same value. And be sure you're POKEing the correct location for your DOS. Use a value between 160 and 256.

Follow this routine:

1. Boot normal DOS
2. LOAD your Hello program.
3. Insert a blank disk in your drive.
4. POKE (1st location), (new value)
5. POKE (2nd location), (new value)
6. INIT (Name of your Hello Program)

You now have a protected disk. The normal Apple copy programs will not work on this diskette. To use it, you must boot the disk. This will load the Changed DOS.

In order to LOAD programs onto this disk you must change the two locations that you POKEd earlier. Follow these steps:

1. Boot normal DOS
2. LOAD your program
3. POKE (location 1), (new value)
4. POKE (location 2), (new value)
5. Insert the protected disk in your drive
6. SAVE (program name)

Muffin could also be used to upload programs to your protected disk from a 13-sector disk. The steps would be the same except for the following changes:

2. BLOAD DEMUFFIN
5. CALL 2051
6. Follow the Muffin prompts

Muffin will prompt you for the source and destination slot and drive. Then it will ask for the program name. If you want to transfer more than one program, type an 'equals sign' (=). This is the wild card character and means: Transfer All Programs. It then asks if you want prompting and you should answer yes. Muffin will now display each program name and ask if you want to transfer it.

After you have transferred all the programs you want, you'll need to consider something else. In order to get the full benefit of this method of copy protection a special HELLO program should be used. This program should set the run flag as well as lock out the RESET switch and ctrl C and then it should RUN your program. The following is a sample:

```
0 ONERR GOTO 1
```

```
1 POKE 214, 128: POKE 1010, 102: POKE 1011,
113: POKE 1012, 112: PRINT CHR$(4) "RUN
Name of your program."
```

Your program should contain one additional line. That line should change the two locations you poked when you initialized the disk back to what they were originally. For example:

```
10 POKE (location 1), 222: POKE (location 2), 222
```

This changes DOS back to normal. If someone were able to stop the program they wouldn't be able to access your disk.

## UNLISTABLE PROGRAMS

If you use DOS and would like to baffle your friends or protect your program listings from casual prying then type the following line (exactly as it is written) into one of your programs. When you get to the ! type in a control D. (The control D is entered by holding the CTRL key down and pressing the D key. The D should not print.)

The line on your screen should look like this:

```
0REM IT'S NO FAIR IF YOU PEEK!FP
```

SAVE the program before you list it. When you LIST the program it should look like this:

```
0REM IT'S NO FAIR IF YOU PEEK!
```

And that is ALL you will get. The rest of your program will not be listed because it's gone.

If you count the characters from the 0 to the ! you'll get 33. Applesoft tries to LIST programs using 33 columns instead of the full 40. The 34th character is folded over and printed on the next line (There are exceptions). DOS gets control at the 34th character when fold over occurs and normally passes control back to Applesoft. However, if the 34th character is a ctrl D then DOS thinks that it has been given a command and will process the remainder of the line accordingly. The FP at the end of the remark tells DOS to reset the Applesoft program pointers and has the same effect as the NEW command in Applesoft. You can replace the FP with any other DOS command. How about CATALOG?

## TIME BOMB

Zero page location 214 (\$D6) is the run flag for Applesoft. If the number stored here is greater than 127 (\$80) then the program in memory will AUTO-RUN each time you try to issue a command. In order to list the program or change a program line, the number in location 214 would have to be changed to a value smaller than 128. If you were to insert the following lines into your program, it would be difficult for the uninformed computerist to tamper with or change the program:

```
2 POKE 214,255
3 IF PEEK(214) <> 255 THEN NEW
```

Line #3 should be inserted in the program in several different places (with appropriate line numbers).

## HIDING PROGRAM LINES

Hiding a line or changing the visible portion is another neat trick. To do this, type in the following steps exactly as shown (Press return after each step):

- a. NEW
- b. 1REM12345672 REM HELLO!
- c. 5 A = PEEK(103) + PEEK(104)\*256 + 5
- d. 10 FOR X = 0 TO 6: POKE A + X,8: NEXT
- e. LIST
- f. Look at it carefully ...
- g. LIST
- h. Notice anything different?
- h. SPEED = 1
- i. LIST

The REMark in line #1 has been overwritten by the second half of the REMark making it appear to be line #2. Line #5 PEEKs the start of program pointer and adds an offset to it. Line #10 changes the numbers 1 thru 7 in the REMark into backspaces. The result is the apparently changed REMark. A line could be completely buried using this technique. Important GOSUBs and GOTOs could be disguised as REMarks. A second Copyright notice could be hidden this way. The list is endless. (Be sure to reset SPEED to 255 afterwards.)



# Another Way To Remove Copy Protection

## for Apple II+ without an INTEGER firmware card

Many Apple II+ owners do not own an Integer firmware card. This method is especially appropriate for you.

Do you have a disk that boots on a 13 sector and a 16 sector Apple? The chances are good that the disk follows a 13 sector format. Muffin was created to move 13 sector files to a 16 sector disk. With a few changes, it can also be used to READ nonstandard disks.

### Requirements:

Apple II or AppleII with 48K  
MUFFIN13 or MUFFIN 16...  
Blank initialized disk (16 or 13 as appropriate)...  
DiskView (or other nibbler)...

Perform the following steps:

1. RUN DiskView
2. Remove the DiskView disk and insert the back-up copy of your program disk.

### NEVER USE THE ORIGINAL DISK

3. READ track 3 and look for the starting address and data marks. The normal values are:

	MUFFIN13	MUFFIN16
Address	D5 AA 96	D5 AA B5
Data	D5 AA AD	D5 AA AD

These bytes can be located by looking for the sync bytes. These are a group of similar bytes or pattern of bytes. (ie. a series of FF's or a pattern that repeats. D5 AB D5 AB D5 AB etc. See Disk Locks)

4. Write down the values that you find. Skip about 6 or 7 tracks and READ again.
5. Repeat step 4 several times. If the values you

### LOCKING YOUR PROGRAM INTO THE RUN MODE

This technique is often used to prevent unauthorized tampering. It's a neat trick to play on a friend. It can be done by inserting the following lines into the beginning of a program:

```
0 ONERR GOTO 1
1 POKE 214,128
2 POKE 1010,102
3 POKE 1011,213
4 POKE 1012,112
```

Line #0 locks out the ctrl C. Line #1 sets the RUN flag and lines 2 thru 4 change the RESET vector to point to the RUN command in Applesoft. Now the program will restart each time you hit RESET or ctrl C.

found were not the same on each track then this method will not work for you. There is one exception and that is if the same byte was changed each time and that byte is the last byte of the data mark (ie. D5 AA FE D5 AA DD D5 AA FD).

NOTE 1: See disklocks for more information on address and data marks. Practice on a normal DOS disk until you are familiar with the disk format and can easily find the address and data marks.

NOTE 2: Check a higher track (ie. track 3 thru 34) and use the 4+4 Conversion Chart in Disklocks to convert the sector bytes for each address mark to hex. Verify that the sector numbers range from 0 to 12. If the sectors are numbered differently (ie. by even numbers. 0,2,4,6,8,10 etc.) then this method will not work.

6. BLOAD MUFFIN (13 or 16)
7. CALL -151

----- NOTE -----

Replace the boxed symbols with the proper address or data mark.

Replace: with:

<b>A1</b>	1st byte of address mark
<b>A2</b>	2nd byte of address mark
<b>A3</b>	3rd byte of address mark
<b>D1</b>	1st byte of data mark
<b>D2</b>	2nd byte of data mark
<b>D3</b>	3rd byte of data mark

8. Type in the following changes and use the values you found in steps 3 thru 5:

MUFFIN13	MUFFIN16
1A76: <b>A1</b> Return	1A55: <b>A1</b> Return
1A80: <b>A2</b> Return	1A5F: <b>A2</b> Return
1A8B: <b>A3</b> Return	1A6A: <b>A3</b> Return
1A08: <b>D1</b> Return	19E7: <b>D1</b> Return
1A12: <b>D2</b> Return	19F1: <b>D2</b> Return
1A1D: <b>D3</b> Return	19FC: <b>D3</b> Return

NOTE: If your disk uses a variable third byte in the data mark, then make the following additional change:

MUFFIN13 only... MUFFIN16 only...  
1A1E:EA EA Return 19FD:EA EA Return

### 9. 803G return

10. Respond to the prompts with the appropriate slot and drive for the source and destination disks. Be sure to insert the disks in the correct drives. If you are using only one drive, label the disks clearly to avoid confusion. Respond to the file name prompt with the equals sign (=) and type N to "do you want prompting". If you are using one drive, the program will still prompt you to switch disks when necessary.

Muffin is a program on your 3.3 DOS Master disk. Those of you with 3.2 DOS will need to get a copy from a friend or your local dealer. Muffin is used to transfer 13-sector files to 16-sector disks. To do this, it contains an image of 13-sector RWTS (Read or Write a Track and Sector). It uses the 13-sector RWTS to read a file and then writes to your 3.3 diskette using the resident DOS.

## how to make THE NEW SOFTKEY muffins

### FOR 3.2 DISKS MUFFIN 13

Muffin13 is created by changing the RWTS image so that it doesn't use the checksum or end marks.

#### 1. BLOAD MUFFIN

#### 2. Type in the following POKES:

POKE 6826,24 return  
POKE 6827,96 return  
POKE 6734,24 return  
POKE 6735,96 return

#### 3. BSAVE MUFFIN13, A\$803, L\$18FD

### FOR 3.3 DISKS MUFFIN 16

Muffin can be modified to READ files on 16-sector disks. You'll need the Programmer's Aid ROM (The Integer card comes with this ROM).

#### 1. Type INT return (for integer card)

#### 2. BLOAD MUFFIN

#### 3. CALL -151

#### 4. Type in the following:

##### A. D4D5G return

Initializes the Programers Aid Code-Relocation feature. See page 16 of your Programers Aid Manual (PAM).

##### B. 1900 8800.BFFF ctrl Y\*

return

Tells the relocate routine what we're moving and where it goes. See page 16, PAM.

##### C. 1900 8800.8A10 ctrl Y

return

Moves the first Code segment down to \$1900. See page 17, PAM.

##### D. .BC57M return

Moves the Data segment. See page 17, PAM.

##### E. .BFFF ctrl Y return

Moves the last Code segment.

##### F. POKE 6701,24 return

POKE 6702,96 return

POKE 6793,24 return

POKE 6794,96 return

#### 5. BSAVE MUFFIN16, A\$803, L\$18FD



# HOW TO Turn Your Slow DOS 3.3 Into A Faster DOS

## 'SPEED DOS HELLO' Makes your D.O.S. (B) LOAD 5 TIMES FASTER

Why pay \$35 or more just to speed up your disk access. Here is a simple program that will change a 48K slave disk into a 48K SpeedDOS disk.

When you BOOT the altered disk, your programs will LOAD, BLOAD, RUN and BRUN up to 500% faster than normal DOS.

Enter the SpeedDOS listing and save it to disk before you RUN it. Experiment on a scratch disk until you are sure you have typed everything correctly.

The HyperDOS code will overwrite the format routines in DOS so you will not be able to use the INIT command.

AppleSoft, Integer and Binary file LOAD times are speeded up. Text files are not affected.

This change will only affect the disk access times. Your program execution time is limited by the computer itself and will not be affected.

At some time or other, most users have all noticed that FID will load a file it is copying a lot faster than DOS will load that same file. (Is everyone back from checking?) If FID can do it, why can't DOS?

When DOS loads a file, it calls a general routine that reads a range of bytes from the file that is open, which in turn calls the "Filemanager" to do the actual work. The loop for reading those bytes in the filemanager is extremely inefficient when it comes to a large range of sequential bytes. If the general "read routine" was replaced with a different routine that read the file sector-by-sector, as opposed to byte-by-byte, a large speed increase would result. Enter HYPER-DOS.

HYPER-DOS will link into the LOAD, RUN, BLOAD and BRUN routines. When a file is put into memory, the track/sector list and the first sector of the program are loaded into DOS and a check is performed to see if it is the last sector to be loaded. If so, DOS will complete the LOAD. Otherwise, HYPERDOS will move the data to the correct place in memory. Each subsequent sector is loaded directly into the correct location and a check is performed only once per sector to see if it is the last sector of the file. On the last sector, only the portion of the sector that is used is decoded.

A 32K file (131 sectors) takes about 30 seconds to load with normal DOS and about 7 seconds with HYPER-DOS.

### by putting 'HyperDOS' over the 'INIT' code

HyperDOS code by John Bridges  
Hello Program by Chuck Haight

```

10 REM
11 SPEED-DOS HELLO
20 REM
21 BY ROBB CANFIELD
30 HIMEM: 16384
40 NORMAL : TEXT
50 GOSUB 490
60 GOSUB 560
70 HOME : VTAB 10
80 HTAB 3
90 PRINT "PLACE A 48K SLAVE DISK IN
  DRIVE 1"
100 VTAB 12: HTAB 5
110 PRINT "AND PRESS ANY KEY TO
  CONTINUE"; GET A$
120 PRINT
130 HOME : VTAB 12: HTAB 10
140 PRINT "READING YOUR DOS"
150 CO = 1: GOSUB 280
160 HOME : VTAB 12: HTAB 10
170 PRINT "MODIFYING YOUR DOS"
180 GOSUB 390
190 POKE 17016,175: POKE 17017,190:
  REM SET JUMP TO SPEED-DOS
200 POKE 17284,44: POKE 17285,44:
  POKE 17286,44: POKE 17287,172
210 CO = 2
220 HOME : VTAB 12: HTAB 14: PRINT
  "WRITTING DOS"
230 GOSUB 280
240 HOME : VTAB 12
250 PRINT "DO ANOTHER ONE (Y/N)? ";
  GET A$
260 IF A$ = "Y" THEN 70
270 TEXT : END
280 REM
290 SECTORS FOR SPEED-DOS
300 POKE BUF,0: POKE BUF + 1,64
310 TK = 0: ST = 8: GOSUB 440
320 TK = 0: ST = 9: GOSUB 440
330 REM
340 SECTOR TO PLACE
350 JUMP TO SPEED-DOS
360 TK = 1: ST = 3: GOSUB 440
370 REM
380 CHANGE INIT COMMAND
390 TO A NULL COMMAND
400 TK = 1: ST = 7: GOSUB 440
410 RETURN
420 REM
430 READ SPEED-DOS
440 RESTORE

```

```

410 FOR X = 16559 TO 16738
420 READ A: POKE X,A: NEXT
430 RETURN
440 REM
450 CALL IOB
460 POKE TRK,TK: POKE SCT,ST: POKE
  VOL,0: POKE CMD,CO
470 CALL IO
480 POKE BUF + 1, PEEK (BUF + 1) + 1
490 RETURN
500 REM
510 POKE CODE
520 RESTORE
530 FOR X = 1 TO 179: READ A: NEXT :
  REM SKIP DOWN TO IOB CODE
540 FOR X = 768 TO 796: READ A: POKE
  X,A
550 NEXT X
560 RETURN
570 REM
580 INITIALIZE VARIABLES
590 TRK = 780: SCT = 781: CMD = 788: RD
  = 1: WR = 2
600 SLT = 777: BUF = 784: VOL = 779: IO
  = 768
610 POKE BUF,0: POKE BUF + 1,64
620 RETURN
630 REM
640 CODE FOR SPEED DOS
650 DATA 173,97,170,201,2,176,3,76,
  10,164,138,237,230,181,141,240,
  183,133,66,152,233,0,141,241,
  183,133,67
660 DATA 24,173,203,181,133,64,173,
  204,181,133,65,173,230,181,168,
  189,96,170,141,250,183,173,97,
  170,105
670 DATA 0,141,97,191,24,177,64,145,
  66,200,200,249,173,201,181,133,
  64,173,202,181,133,65,160,14,
  238,241
680 DATA 183,177,64,141,236,183,200,
  177,64,141,237,183,200,140,249,
  183,177,64,200,17,64,240,60,206,
  97,191
690 DATA 240,55,32,101,176,172,249,
  183,200,218,200,177,64,240,56,
  141,236,183,200,177,64,141,237,
  183,173
700 DATA 240,183,72,173,241,183,72,
  165,64,141,240,183,165,65,141,
  241,183,32,101,176,104,141,241,
  183,104
710 DATA 141,240,183,160,12,200,171,
  173,250,183,141,61,190,32,101,
  176,169,0,141,61,190,76,234,
  162,0
720 REM
730 CODE FOR IOB
740 DATA 169,3,160,8,32,217,3,96,1,
  96,1,0,0,25,3,0,32,0,0,1,0,0,
  96,1,0,1,239,216

```



DiskEdit II is the first in a new line of software designed specifically for ease of use and modification.

It is supplied on a DOS 3.3 (16-sector) disk that is not copy-protected. The program is Applesoft BASIC with packed machine code. The DiskEdit II source code is included with a fully-commented listing to simplify modifications.

DiskEdit II is a direct disk-access program that allows both reading and writing to any sector on a disk. This makes it easy to:

**DIRECTLY EDIT FILES ON DISK:**  
change text in binary files  
insert illegal characters in REM's  
directly alter data base files

**MOVE SECTORS** (even between disks):  
repair crashed disks  
patch the VTOC

**FORMAT YOUR DIRECTORY:**  
remove illegal characters in file names  
write flashing and inverse titles  
recover deleted files  
hide file names

DiskEdit II will also display an entire sector as ASCII or HEX (hexadecimal) characters.

DiskEdit II is easy to use. The commands are single key entry (you don't have to keep pressing RETURN). The edit mode allows continuous changes to be entered in hex or ASCII and only exits when you press 'ESC' (escape). With DiskEdit II you can directly enter control, inverse, and flashing characters. Input and status information can be in hex or decimal.

DiskEdit II has a simple escape. If you change your mind, pressing the 'ESC' key will set the defaults and return you to the command parser.

The keyword is simplicity. DiskEdit II is the most user-friendly, direct disk-access program around.

## Summary of Commands

KEY	MNEMONIC	MODE	PROMPT	EXPLANATION
ESC	ESCAPE	-any mode-		This is the "I changed my mind" key. Press this key to reset defaults and exit back to the command mode.
RTN	—	—		The RETURN key, when used to answer an input prompt, will accept the current default value and continue. (Example: When prompted for the track and sector during a READ command, pressing RETURN twice will cause the current track and sector to be read.)
>	COMMAND			Track skip command. It increments the track number and performs a READ. The sector is not incremented. It is not necessary to shift to use this command.
<	COMMAND			Track skip command. It decrements the track number and performs a READ. It does not decrement the sector number. This command can also be used with or without shifting.

**B BINARY BINARY** Calls the monitor to disassemble the buffer contents starting at the cursor location. Use the space bar to continue disassembly one line at a time or press RETURN to disassemble 20 additional lines. Press 'P' to print the screen display. Press ESC to exit.

**C CATALOG CATALOG** Calls the catalog from the disk using the current slot and drive. Prints the number of free sectors on the disk.

**D DRIVE COMMAND** Flips the active drive from 1 to 2 or from 2 to 1 on each keypress.

**E EDIT >>EDIT<<** This is a continuous-edit mode which allows you to type changes just like on a typewriter. Pure cursor movement is supported using control keys. If you are in hexadecimal format, only valid hex digits are accepted as input. In ASCII format all keys are valid except the control keys listed below. (Press ESC to exit.)

Key	Function	Key	Function
F	set FLASH mode	I	set INVERSE mode
N	set NORMAL mode	Q	move cursor up
Z	move cursor down	->	move cursor right
<-	move cursor left		

## NOT COPY-PROTECTED!

by Charles R. Haight

BE THE

# MASTER

## OF YOUR DISKETTES

with "the most versatile and user - friendly disk editing utility."

**TOTAL DISK ACCESS!**  
**VIEWS ANY DISK!**

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Hide or disguise file names.  
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Tacoma, WA 98444

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NO Credit Cards. Dealer Inquiries Invited.



**+ PLUS COMMAND** This edit submode is entered using the plus (+) key. The mode prompt is changed to +EDIT+. It is identical to the normal edit mode except that it does not support control functions. All keys are valid except ESC. Control characters may be directly entered. The plus (+) key may be used to enter this submode, with or without shifting.

**F FILTER COMMAND** This command calls the Filter Format Chart in any filter but #1. It shows the status of the filter currently in use and allows you to make changes. You can even format your own filters. Refer to Table 7 of the APPLE II REFERENCE MANUAL for ASCII screen characters. Use RETURN to pass over values that you don't want to change.

- Function 1 - Print hexadecimal
- 2 - Delete character
- 3 - Delete block
- 4 - Special format for directory

**G BELL COMMAND** Turns the sound on or off each time you press the 'G' key. (Default at BOOT is on.)

**I UP COMMAND** Moves cursor up.  
**J LEFT COMMAND** Moves cursor left.  
**K RIGHT COMMAND** Moves cursor right.  
**M DOWN COMMAND** Moves cursor down.  
**L LAST COMMAND** Reads last sector.  
**N NEXT COMMAND** Reads next sector.

**O CURSOR** Allows cursor to be jumped to any absolute position in the displayed sector.

**P PRINT PRINTER** Dumps the buffer contents to your printer. A header is printed which shows the track, sector, and volume. When first used, the program will ask which slot your printer is using and whether you want to use 40 or 80 columns. After the initial use, the program will remember your instructions and simply print.

**Q COMMAND** Selects DOS-16, Pascal, CP/M, external or actual. These commands change the soft interleave that is used by DiskEdit when it reads or writes a sector. The soft interleave is the interwoven order in which sectors are read from a disk. While the first sector of a disk is being decoded, the disk continues to rotate in the drive. By the time the first sector is decoded, the disk has rotated beyond the next physical (actual) sector by several sectors. This is where the distinction between the actual order of sectors on a disk and the order in which they are read comes in. The second sector which is read may be the fourth or fifth actual sector on the disk, due to the rotation factor. Ordinarily, to read the second actual sector on a disk you would have to wait until the disk rotated all the way around again, past sector 1. Using the ACTUAL

option, you can read the physical sectors on a disk in order.

The soft interleave varies with the language in use. The EXTERNAL command allows you to use any DOS; for example, 13-sector or protected.

**R READ >READ<** Prompts you for the track and sector to read. Use the RETURN key to accept default values.

**S SLOT SET SLOT** Prompts you for a new slot. Valid entries are from 1 to 7.

**U UPDATE COMMAND** Flips the status indicators between hex and decimal. It also updates the display information. Only the track, sector, volume, and cursor information are affected by this key. (Default at BOOT is hex.)

**W WRITE >WRITE<** Prompts you for the track and sector to write to. Use the RETURN key to accept default values. After you enter the track and sector, and hit RETURN, DiskEdit II will beep three times and pause. This is the last chance to change your mind. Press RETURN to WRITE, or any other key to escape.

**X EXIT COMMAND** Clears the screen and exits to BASIC.

**Z COMMAND** Switches the filter mode on and off each time the 'Z' key is pressed. Entering the EDIT mode automatically switches the filter off (default at BOOT is on). DiskEdit II currently supports eighteen filters. Use the nine numbered keys and their shifts to select the filter you need. Filters 1-7 are already defined for you; the others await your definition. Any filter can be redefined except filter 1.

**0 CRUNCH COMMAND** Crunches the screen display to make it easier to read. This is effective when you are using any ASCII filter (any filter but #1).

**1 FLT1 COMMAND** Hexadecimal display. This is the default filter when DiskEdit is booted and the only filter that cannot be redefined.

**2 FLT2 COMMAND** Changes inverse, flashing and lower case characters on the screen display to normal ASCII. Control characters are displayed as inverse.

**3 FLT3 COMMAND** Filter #3 does the same as #2, and also removes the @ signs from the field.

**4 FLT4 COMMAND** Inverse and flashing characters will be displayed as normal, but control characters will be in hexadecimal.

**5 FLT5 COMMAND** Displays upper and lower case characters.

**6 FLT6 COMMAND** Directory filter.

**7 FLT7 COMMAND** Directory filter.



# Soft Key to 'Applesoft Disks'

## How To Back Up Copy-Protected Disks Containing Mainly Applesoft Programs

If the program you have is working to your satisfaction, there is really no reason to go through the trouble of "unlocking" the copy-protection. I recommend that everyone obtain a bit-copy program and use it to back up your software. The methods described here are for programs that you feel need FIXing. In order to FIX them, you have to be able to list them.

The whole purpose of "Copy The Uncopyables" is to allow the user to get into a protected pro-

gram and to make changes in that program.

Another reason for putting programs on disk is to conserve disk space by placing a program on a disk. If you just make a bit-copy of ten disks, you now have 20 disks. However, loading the protected program to normal probably put all ten on two or three original disks.

As soon as this column is printed, protection method and its SOFTKEY.

## CENSORSHIP IN COMPUTER MAGAZINES

part 2. An interview with:

Dave Alpert is the head of Omega Software, Inc. as well as the president of the Northern Illinois Apple Users Group.

HARDCORE: Did you write Locksmith?

DAVE: No.

HARDCORE: Then who wrote Locksmith?

DAVE: I am not allowed to talk about the author.

HARDCORE: When was Locksmith written and later marketed?

DAVE: It had been under work for well over a year. The first ad appeared Christmas Eve, last year. I had anticipated running advertisements in about 8 magazines and planned on 3 appearances, initially, in each one.

HARDCORE: While Locksmith was being created, did you suspect that you would be the focus of so much controversy?

DAVE: Yes and no. I suspected that there would be opposition to it and that it was controversial but I did not expect the reactions and activities of others in terms of out of the advertising of our product, quote you something.

U.S. Public Law 96-517 U.S. LIMITATIONS ON EXCLUSIVE COMPUTER PROGRAM

"Notwithstanding the provisions of section 106, it is not an infringement of the copyright in a computer program to make or authorize the making of a copy or adaptation of that computer program if:

(1) that such a new copy is created as an essential step in the operation of the computer program in a manner, or

(2) that such new copy is for archival purposes only and the copies are destroyed in the event of the destruction of the original copy.

That legitimizes bit-copy programs had been in the process of coming out program and when we saw that we were there.

We contracted advertising in C Micro. And we placed ads in Call Softalk and others. Micro published Christmas Eve and Tripp, the editor of immediately got phone calls from other vendors who said that if he continued ad they would withdraw their advertisement too late for him to stop the second ad but he did cancel my third ad. And to that pressure, he wrote his editor in the March issue [see col "OTHERWORDS".....ed]. Creative also bowed to the same pressures editorialize about it.

Bob Tripp of Micro made a other magazine he could get his hand editorial he says, to ask them if they

## 1. The Fast And Nifty Demuffin Me

Requirements:

Apple II  
Tape  
Blank  
Muffin

Preliminary

1. C  
tions under  
2. F  
3. F  
MOVE" on

## 2. The Open-Heart Surgery

Requirements:

Apple II - 48K  
Applesoft in ROM  
Integer card  
Tape recorder  
Blank initialized disk (3.2 or 3.3 as appropriate)

The following 48K with Applesoft II have Integer in ROM, reverse the appropriate the switch UP on voice

## SOFT-FIX and additions

One of the reasons for removing programs and files from copy-protected disks is: You can now FIX them, alter them, and even make ADDITIONS to them. In other words, you can now customize them to fit your particular needs.

Since you have already "freed" Akalabeth from its "protected" disk, you can now FIX its annoying scrolling problem as well as add on this new magic command: TELEPORTATION.

PROBLEM: The "hit points" (often flash (scroll) by so fast they were and therefore cannot make

FIX: Put in a pause after it prints other minor FIXes that modify screen farewells (quit has been changed to

SPECIAL MAGICAL ADDITION descend into, and ascend out of, the World of Doom, we have added a special option. (Use only if you have 1 or more teleportation "burns up" amulets just Magic Ladder-Up or Ladder-Down copy

When you choose this 5th option see: 1-UP 2-DOWN. Take your choice will continue upward until either you see amulets and get: OUT OF MAGIC message you'll be asked: HOW MANY LEVELS so choose a number from 1 to 9 and down

If you run out of magic now, you're right. If you have a FIX or an ADDITION programs on the market (whether they or normal format disks), drop a note to the other Apple-users know about it (in the next issue). You'll also get byline

Silhouette print of my Akalabeth.

1664 PRINT MS (MM) MZA (MM 1) SOFT KEY

## bit copy program

Making copies of any software you own (back-up or archival) is not illegal. And it makes good sense. Software prices are too high for anyone to casually take the chance of crashing an original.

The problem is: How to copy a protected disk. The simple solution is to use a Bit-copier.

Unlike DOS, a Bit-copier does not depend on a standard format of information. It

## adventure tips

by Mike Flynn

### Fellow Adventurers:

Hail and well met! Thou has chanced upon the powerful charm as "Adventure Tips". And a powerful charm it will be, with your help. With the advent of HARDCORE, the opportunity has now itself to produce a column for my fellow adventurers. The premise which this column is based is "reader support". What I will attempt to accomplish is to establish a sounding board for you, the reader. If you completed any adventures, send in a complete description of how you about winning the game (ie. a list of all the magic words and where apply as well as a map or list of all the correct directions and any other

## Using DiskE

CAUTION: READ

## HOW TO BACK UP YOUR COPY-PROTECTED DISKS

# hardcore computing

Volume 1 Number 1 Premier Issue \$3.50

## Soft Key

Part One: How To Back Up Your Copy-protected Applesoft Disks

Guide to BIT COPY Programs

1. Locksmith  
2. Back-Up-Up  
3. Copy II Plus

Censorship in Computer Magazines

Utility R.W.T.S. Disk Edit



## hardware solutions

by charles r. haight

Many of you with the A-II+ complained that you couldn't use Bobby's SOFTKEYs because you didn't have access to the Integer Firmware card. Well, here's one solution....

curing those auto-start ROM blues

## TEXT invaders 2.0

by

DEAN

SPACE = SHOOT! ESC = NEW GAME

19C 17C 18C 18C 16C \*\*\*

19C 17C 18C 18C 16C \*\*\*

special expanded DISKLOCKS: how to copy protect disks

volume 1

number 2

issue 2

\$3.50

# hardcore computing

### PROGRAMS:

DISKVIEW utility nibbler.  
updated DiskEdit 2.2  
hi-res: easle.  
lo-res: amber's t's  
tx-res: invaders.

### COLUMNS:

consumer's  
legal forum.  
HGR: hi-res  
corner.

BIT-COPY  
programs  
reviewed:  
1 Nibbles  
2 Away  
3 Locksmith  
4.0

PLUS  
med  
venture  
part 2

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E

## book

## review

Graphic Software for Microcomputers  
by B. J. Korites, PhD  
©1981 by Kern Publications

11" wide, 8" high, plastic spiral binding, soft-cover, 200 pages (printed on one side only)

GRAPHIC  
SOFTWARE  
for

## EXPANDED DISKLOCK

by bobby

How To

## COPY-PROTECT your disks

In the most popular column in the Premier Issue mysterious Bobby will attempt to cover the entire

## adventu

by

How no  
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only a few re  
and notes.

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390 PRO  
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400 INF  
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410 GO  
420 PRO  
NAME  
430 INF  
YOU



# NEW FOR 1983 : TWO MAGAZINES IN ONE :

How to Back  
Up Copy-  
Protected  
Disks!

**Soft**



**K**

TO

**E**

THE

**Y**

KEY

**S**

BOARD

Bev. R. Halght

In  
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solutions  
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problem  
of....

must begin  
those involved  
—BRH.

Dear Editor,  
Basically,  
done in the  
you see...

**Site and its elements...**

b. bryte's  
writing your own

modular  
adventure  
arcade  
game  
part  
3

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**hardcore**  
computing

Vol. 1 Issue 3

**HYPER DOS**  
500% faster than DOS 3.3

Interview with  
**MIKE MARKKULA**  
on copy protection

**Softkey 4**  
**BOOTCODE TRACING**

**COPYING vs  
COPY  
PROTECTION**

There are many people who are genuinely concerned about "Piracy" and "copy-protection," people who are proposing solutions to this complex dilemma.

**Interview**



**A.C. "Mike"  
Markkula,**

"It is true.  
We are against software protection."

## How To MAKE PARAMETER CHANGES

This file was last updated -< May 24, 1982

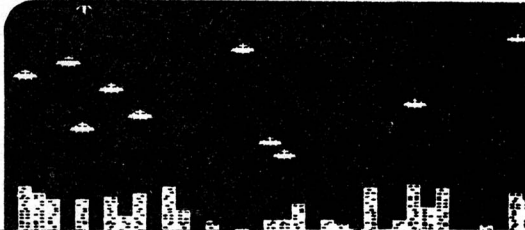
The parameters below are accessed from "The Source" (12) TCD328 < NIBBLE from the command mode

**NIBBLE**

5) OVERRIDE STANDARDIZER  
6) S 6-9 BY 1.5... ADDR=BD AD DA

Listed below are the change in order to be pieces of software which than the default values. If a number the "less than" (>) and (<) signs, it corresponds of the Auto-Load file which the listed function. To use the file, see Chapter 6 in the

**Zyphyr  
Wars  
2.0**



Algorithms, in an their specialized flag to indicate possible to indicate to be performed algorithm failed. T setting the high

# 4 SPECIAL ISSUES, 8 MINI-MAGAZINES

Welcome to **HARDCORE COMPUTING**, the magazine for serious Apple computerists. In these few pages you have been exposed to the controversy involving users' right-to-know, editorial censorship, and **HARDCORE**'s role in this battle. You have also seen excerpts from the pages of **HARDCORE**:

- How to speed up your DOS.
- How to make a Menu Hello.
- How to do and undo copy-protection.

By subscribing to **Hardcore**, you can discover what the other computer magazines have, for the last year or so, been keeping from the users.

In our pages you'll find entire program listings for games and utilities. We also print the source code for machine language programs.

You'll discover the secrets of DOS, Apple graphics, and copy-protection.

We print the parameters of the leading bit-copy programs. We have user's columns for popular software

aids and even columns on how to write adventures, arcades. We give Adventure tips.

One of our most popular columns is the **SoftKey** series, where you learn how to move programs from a locked disk to a normal DOS disk. Once on normal DOS, you are shown how to alter it, fix the bugs, and make exciting alterations.

## 2 MAGAZINES FOR THE PRICE OF 1

If you subscribe now, you will get 2 magazines for the price of one!

1. The Old **HARDCORE COMPUTING** will become the **New CORE** magazine.

Beginning with issue 4, this 64-page quarterly will feature special topics in depths not covered by other magazines:

- ALL ABOUT GRAPHICS... #4
- ALL ABOUT UTILITIES.. #5
- ALL ABOUT DATA BASES. #6
- ALL ABOUT GAMES ..... #7

The **New CORE** Magazine will go straight to the core of each special subject. Each issue will become a reference guide to that topic. Of course, the **New CORE** will also contain its usual variety of columns and articles. But it will now retail for **\$5.00** each.

2. The old **HARDCORE UPDATES** (sometimes called **CORE**) will be transformed into the

### **New HARDCORE COMPUTING**

and will concentrate solely on the solutions to copy-protection and locked disks.

It will include articles on:

- PARAMETERS FOR BIT-COPY PROGRAMS,
- HOW TO MODIFY PROGRAMS TO FIT YOUR NEEDS,
- HOW TO PUT THEM ONTO NORMAL DOS, and
- HOW TO MAKE ADDITIONS TO THEM.

Also included will be a series on **APT** (advanced playing techniques) to popular games. The **New Hardcore** will be published 8 times a year and consist of 16 to 32 pages of no-nonsense, to-the-point, hard-core articles for the informed Apple user who wants to use unlocked software.

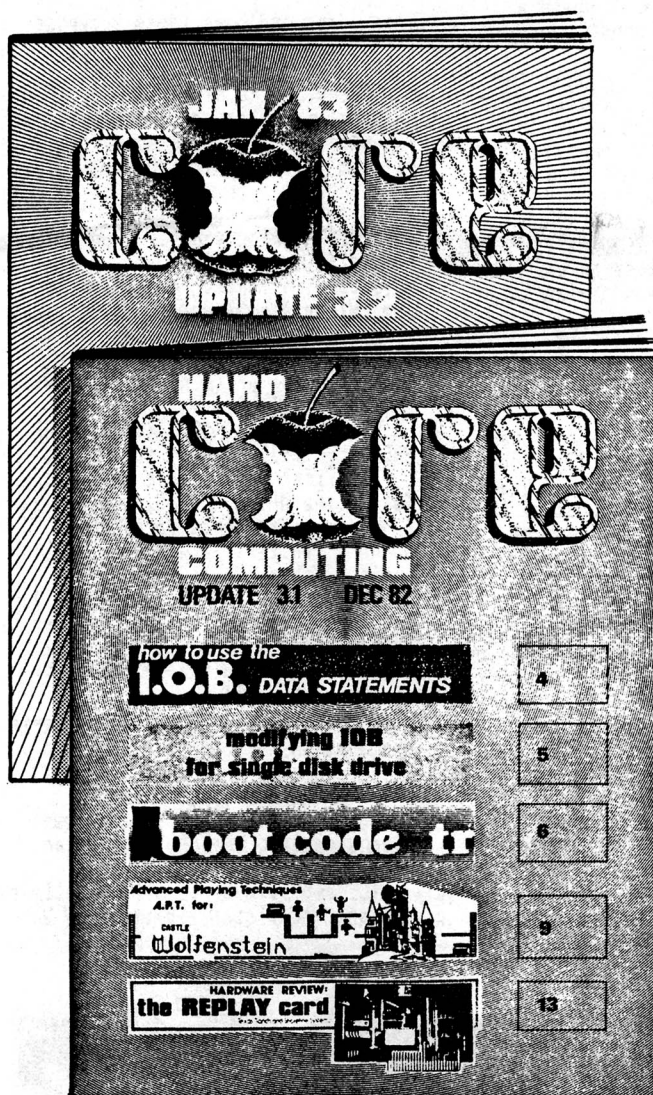
Because this information is not published by any other magazine, the **New Hardcore Computing** will be as popular as the original but will retail for **\$2.50** each.

### **WHILE THEY LAST...**

You can still buy back issues of the Old **HardCore** computing and its **Updates**.

**Subscribe now and save \$20** or more off the total single-issues price on this special offer of two magazines for the price of one. When this transition period is over, the **New CORE**, and the **New HARDCORE COMPUTING** will become two totally different magazines with two completely different subscription rates, so don't wait too long!

For more complete subscription information, see the back page of this newsletter.





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Tacoma, WA 98444

# introducing

Join SOFTQUEST and buy top quality  
games for a little as  
**\$5.95 per disk.**

I'm sure that you've noticed that  
the retail prices of games average  
about \$30 (some are as high as \$100!)  
yet disks cost only \$2 to \$5 each.  
Add to that the cost of copying,  
labeling, packaging, shipping....

My own experience reveals that the  
inflated price of software is caused  
by several factors:

1. The number of potential  
customers is small relative to the  
general population.
2. The active sales lifetime  
of games (only about 2 to 6 months)  
is short.
3. The actual number of new  
games being written is not yet enough  
to enable competition to reduce the  
price.

4. Publishers must spend a  
lot of money just to promote  
(advertise) the product;

5. More money to produce the  
printed documentation, labels, etc.;

6. And still more money to  
screen the submissions, suggest or  
make alterations, make thousands of  
copies, mail free samples to dealers  
and reviewers, print documentation,  
register copyrights, trademarks,  
etc... all of which must be paid for  
before the product even begins to  
produce revenue.

From the standpoint of the  
publisher, a higher price tag means  
higher initial repayment of these  
expenses.

There's got to be a way to lower  
the price of software and I've found  
one way: it's called SOFTQUEST U.S.A.

SOFTQUEST removes the cost of the  
initial expenses and the cost of  
promotion from the price of games  
that it publishes.

Removing just those factors will  
bring a \$30 game down to \$10 or less.

Now add on the security created by  
a large number of buyers who have  
already purchased that game... and  
the price can be reduced to a paltry  
**\$5.95!**

Would you step into the shoes of  
the publisher and spend only \$5.95 in  
order to buy a game that, when  
finally released, will cost \$20 to  
\$30?

SOFTQUEST will give you the  
opportunity to make that decision...

by B. BRYTE

the same type of decision a publisher  
must make... except you will not be  
investing tens of thousands of  
dollars.

Here's how it works.

**First**, the amortized  
advertising expense will be paid for  
by a nominal membership fee. This fee  
would also pay for the publication  
and distribution of a monthly  
newsletter magazine that would  
promote the authors and available  
products.

**Secondly**, a game will not be  
marketed until 1000 copies of the  
game have been sold (minimizing the  
production expenses).

**Thirdly**, members would invest  
into games and game ideas accepted by  
this organization... by buying  
CERTIFICATES OF PRESALE. These  
certificates are divided into various  
categories and series and are either  
"open" (less than 1000 sold) or  
"closed" (readied for outside sale).

The earlier in the game's  
development you purchase it, the  
greater the risk you take. So  
naturally, the cost to you, the  
investor, is lower. The closer to  
completion is the game, the less the  
risk and the higher the cost until,  
finally, the game is released. At  
that time the price of purchase will  
be its retail price.

Three types of "CERTIFICATES OF  
PRE-SALE" will be sold to members:

The first type is the most risky.  
Called the WHITE SERIES, users will  
be buying games from first-time  
authors (writers for whom this is  
their first marketed game).

The second, the RED SERIES, will  
be certificates for games produced by  
authors who have previously had a  
game marketed by themselves or by  
another publisher.

What follows is a series-by-series  
explanation of "open" and "closed".

#### White Series:

(OPEN: \$5.95) This is the least  
expensive game deal SoftQuest can  
offer, an unspecified game.

(CLOSED: \$9.95) It will usually be  
assigned to a game submitted by a

# [ USER'S SOFT

# SOFTQUEST

# U.S.A.

first time author.

RETAIL PRICE: \$20 - \$35

## Red Series:

These game certificates are sold in separate categories:

1. Adventure games
  2. Arcade games
  3. Strategy games
  4. Space games
  5. Simulations
  6. Conventional games
  7. Sports
  8. Educational games
  9. Original format games
  10. Original fantasy games
- (OPEN: \$6.95) These are the

"perpetually open" series. When 1000 are sold, that particular 1000 are "closed," and all new sales go into the next 1000.

(CLOSED: \$10.95) An author is commissioned by a vote of the registered certificate owners.

RETAIL PRICE: \$25 - \$40

## Gold Series:

This is our top-of-the-line series. These authors have had a game marketed by SoftQuest and are creating yet another game.

(OPEN: \$7.95) Members will be buying the author's promise to produce a top quality game based on

the author's earlier marketing success. Only 1000 certificates will be sold at the "open" rate.

(CLOSED: \$13.95) The author is contracted to finish the game in 4 months from the closing of the series.

RETAIL PRICE: \$30 - \$50

## MONEY BACK GUARANTEE

If, for any reason, the open certificate is not closed in 12 months, the registered certificate owner can choose to:

- 1) get a FULL REFUND of the certificate value, or
- 2) have the certificate changed into (TRANSFERRED to) another certificate of equal value in the same status (open or closed), or
- 3) have the value of the certificate subtracted from any purchase of products from SoftQuest.

When the product is ready for normal sale, the cost of promotion will be put back into the game price and advertisements for the game itself will appear in various media. Only members can purchase game certificates.

Membership fees are annual and depend on what type of membership you are applying for.

## REGULAR MEMBERSHIP

Normally \$19.95, you can save \$5 by joining at the introductory price of only \$14.95 with the purchase of at least one Red Series certificate. This offer expires March 30, 1983.

## ADULT MEMBERSHIP

Save \$5 off the \$29.95 price by joining now for only \$24.95 with the purchase of at least ONE Red Series Certificate. This offer also expires March 30, 1983.

Available only to those with Adult Memberships, the following BLUE SERIES have been opened Feb. 1, 1983: Adult Fantasy, Adult Arcade, Adult Educational.

## Shipping/Handling Fee

For all certificate-only orders, please add \$1 per order for handling. Allow 4 to 6 weeks for delivery of certificates.

## Foreign Memberships

All prices (for certificates, memberships, and games) are for domestic (U.S. only) customers. Foreign prices are higher (due to the postage needed to mail materials overseas), so please write for foreign prices.

Please, USE THE ORDER FORM enclosed.

## SOFTQUEST U.S.A. (User's Software Alliance) MEMBERSHIP AND ORDER FORM HCF1

( ) Yes, enroll me as a REGULAR MEMBER at the special price of \$14.95 plus \$6.95 for this Red Series Open Certificate: \_\_\_\_\_

( ) Yes, enroll me as an ADULT MEMBER at the special price of \$24.95 plus \$6.95 for this Red Series Open Certificate: \_\_\_\_\_

With this signature, I certify that I am indeed over 18 years old: \_\_\_\_\_

Offer expires Mar 30, 1983 when the following prices for membership become effective: Regular membership is \$19.95 Adult Membership is \$29.95

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CITY \_\_\_\_\_

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please print carefully

= \$ 6.95 RED SERIES OPEN CERTIFICATES \$ 9.95 BLUE SERIES OPEN =

= ( ) Adventure ( ) Simulation ( ) Fantasy ( ) Arcade =

= ( ) Arcade ( ) Conventional =

= ( ) Strategy ( ) Sports =

= ( ) Space ( ) Educational \$ 5.95 WHITE SERIES OPEN =

= Check the ones you are purchasing. ( ) Unassigned =

Annual membership fee <PLUS> ONE RED SERIES OPEN CERTIFICATE = \$ \_\_\_\_\_

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\_\_\_\_\_ (quantity) Blue Series Open Certificates at \$9.95 each = \$ \_\_\_\_\_

\_\_\_\_\_ (quantity) White Open Certificates at only \$5.95 each = \$ \_\_\_\_\_

Members ordering ONLY certificates MUST add \$1 for handling: \$ \_\_\_\_\_

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The high score at each of the 9 skill levels is saved to disk.

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Put game into "pause".  
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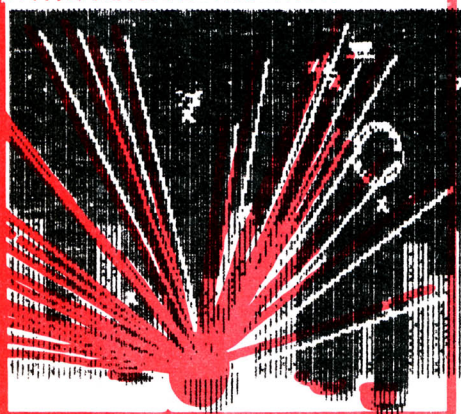
Written by Bev R. Haight.

**HARDCORE Computing**

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HARDCORE #2 \$	---
UPDATE 2.1 \$	---
HARDCORE #3 \$	---
UPDATE 3.1 \$	---
UPDATE 3.2 \$	---
( ) YEARS SUBSCRIPTION \$	---

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ISSUE 1,2,3:	\$5 USA	\$8 others
any UPDATE:	\$3 USA	\$5 others

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